



by Tyco Fire Suppression & Building Products

MATERIAL SAFETY DATA SHEET

PYRO-CHEM FM-200

Issue Date: 08-02-2010

1. Product and Company Identification

Material name	PYRO-CHEM FM-200
Version #	01
Revision date	08-02-2010
CAS #	431-89-0
Product use	Fire extinguishing agent
Manufacturer / Importer / Supplier	
Name	Tyco Fire Suppression and Building Products
Address	One Stanton Street Marinette, WI 54143-2542
Phone	715-732-3465
Internet	http://www.pyrochem.com
Emergency Phone Number	CHEMTREC 800-424-9300 or 703-527-3887

2. Hazards Identification

Emergency overview	DANGER
	Contents under pressure. Heat may cause the containers to explode.
OSHA regulatory status	This product is considered not hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects	
Routes of exposure	Eye contact. Skin contact. Inhalation.
Eyes	Contact with liquefied gas might cause frostbites, in some cases with tissue damage.
Skin	Contact with liquefied gas might cause frostbites, in some cases with tissue damage.
Inhalation	Severe overexposure may cause cardiac sensitization and result in irregular rhythm. Intentional misuse by concentrating and inhaling the product can be harmful or fatal.
Ingestion	Not a likely route of entry.
Potential environmental effects	Ecological injuries are not known or expected under normal use.

3. Composition / Information on Ingredients

Non-hazardous components	CAS #	Percent
1,1,1,2,3,3,3-HEPTAFLUOROPROPANE	431-89-0	90 - 100

4. First Aid Measures

First aid procedures	
Eye contact	Flush thoroughly with water for at least 15 minutes. Get medical assistance.
Skin contact	Wash frost-bitten areas with plenty of water. Do not remove clothing. Get medical attention if irritation persists after washing.
Inhalation	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
Ingestion	Not likely, due to the form of the product.
General advice	If you feel unwell, seek medical advice (show the label where possible).

5. Fire Fighting Measures

Flammable properties	The product is not flammable. No unusual fire or explosion hazards noted.
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Extinguishing media	
Suitable extinguishing media	This product is not flammable. Use fire-extinguishing media appropriate for surrounding materials.
Protection of firefighters	
Specific hazards arising from the chemical	Contents under pressure. Pressurized container may explode when exposed to heat or flame.
Specific methods	In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers.

6. Accidental Release Measures

Personal precautions	Ventilate closed spaces before entering them. Consider initial downwind evacuation for at least 500 meters (1/3 mile). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks).
Environmental precautions	Do not contaminate water. Prevent further leakage or spillage if safe to do so.
Methods for containment	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Move the cylinder to a safe and open area if the leak is irreparable. Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements or confined areas.
Methods for cleaning up	Large Spills: Ventilate the area. Dike far ahead of spill for later disposal. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Allow liquid to evaporate from the surface.

7. Handling and Storage

Handling	When using do not smoke. All equipment used when handling the product must be grounded. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight.
Storage	Contents under pressure. Keep away from heat and sources of ignition. Keep at temperature not exceeding 49 °C. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Keep out of the reach of children.

8. Exposure Controls / Personal Protection

Occupational exposure limits

U.S. - OSHA

Material	Type	Value	Form
PYRO-CHEM FM-200 (431-89-0)	Ceiling	1000.0000 ppm	DuPont's Acceptable Exposure Limit (AEL), 8 & 12 Hr, TWA

Engineering controls	General ventilation normally adequate.
Personal protective equipment	
Eye / face protection	Wear approved chemical safety glasses or goggles where eye exposure is reasonably probable.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Appearance	
Form	Compressed liquefied gas.
Color	Colorless.
Odor	None.
Physical state	Gas.
pH	Not available.
Melting point	Not available.
Freezing point	Not available.

Boiling point	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Vapor pressure	Not available.
Vapor density	3.72
Specific gravity	Not available.
Relative density	Not available.
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	1.1
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
VOC	Not available.
Molecular weight	108.14 g/mol
Molecular formula	C3HF7

10. Chemical Stability & Reactivity Information

Chemical stability	Stable under normal temperature conditions.
Incompatible materials	This product may react with strong reducing agents. and Alkaline metals.

11. Toxicological Information

Toxicological data

Product	Test Results
PYRO-CHEM FM-200 (431-89-0)	Acute Inhalation AT _{LC50} Rat: 788 g/l 4.00 hours

* Estimates for product may be based on additional component data not shown.

Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Further information	This product has no known adverse effect on human health.

12. Ecological Information

Ecotoxicity	This product has no known eco-toxicological effects.
Persistence and degradability	Not available.

13. Disposal Considerations

Disposal instructions	This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose in accordance with all applicable regulations.
Waste from residues / unused products	Not applicable.

14. Transport Information

DOT

Basic shipping requirements:

UN number	UN3296
Proper shipping name	Heptafluoropropane
Hazard class	2.2

Additional information:

Special provisions	T50
Packaging exceptions	306
Packaging non bulk	304

Packaging bulk
ERG number

314, 315
126



DOT

15. Regulatory Information

US federal regulations

This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

CERCLA/SARA Hazardous Substances - Not applicable.

US TSCA Section 12(b) Export Notification: Export Notification requirement/De minimis concentration

1,1,1,2,3,3,3-HEPTAFLUOROPROPANE (CAS 431-89-0) 1.0 % One-Time Export Notification only.

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Acute Health - No
Chronic Health - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance

No

Section 311 hazardous chemical

No

Inventory status

Country(s) or region

Inventory name

On inventory (yes/no)*

Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

16. Other Information

Further information

HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings

Health: 0
Flammability: 0
Physical hazard: 0

NFPA ratings

Health: 0
Flammability: 0
Instability: 0

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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